

INTERNATIONAL
ASSOCIATION FOR TESTING MATERIALS.

AMERICAN SECTION.

BULLETIN No. 21.

MARCH, 1901.

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INTERNATIONAL CONGRESS OF 1901.

A meeting of the Council of the International Association was held at Zurich, on February 2, 1901, at which Prof. Henry M. Howe was appointed American Member of Council to represent the American Section and all American members. The following letter, received by Prof. Howe, gives notice of the Congress which is to be held at Buda-Pesth in September next:

ZURICH, February 23, 1901.

To the Honorable Members of Council and Representatives of the International Association for Testing Materials.

DEAR SIR:—As is known to you, the Council of the International Association for Testing Materials resolved at its last meeting in Vienna to hold the next Congress of the International Association at Buda-Pesth from the 9th to 14th of September, 1901. The resolution was adopted to arrange the Programme of Proceedings and the division of work exactly in the same manner,

as far as possible, as was applied at the Stockholm Congress in 1897.

According to this resolution the transactions of the Congress will be carried on partly at full meetings and partly at sectional meetings.

In the full meetings the following programme will be adhered to :

(a) Papers of a general scientific nature.

(b) Final Propositions of the chairman of sectional meetings.

(c) General affairs dealing with the business and organization of the Association.

In the sectional meetings, on the other hand, the reports of the various International Committees would have to be considered under the headings :

(a) Metals.

(b) Natural and Artificial Building Stones and their Bond-Materials.

(c) Other Technical Materials.

As for the papers to be discussed in the full meetings containing matters of a scientific nature, the Council resolved to devote considerable attention to them at the coming Congress, more than they had done at any previous Testing Congress.

These reports would have less bearing on the usual testing methods than on new views and observations tending to further development and describing the chemical, physical and mechanical properties of various materials. We refer chiefly to the new theories and researches on the molecular constitution of bodies, on the laws of motion and deformation of the smallest particles under the influences of external forces, on microscopical investigations, etc.

In order to assure the Congress of Buda-Pesth the co-operation of eminent scientific men, the Council charged the President of the Association to request the Members of Council and the Representatives to correspond with such persons with a view of inviting them to read papers at the Buda-Pesth Congress.

Your country having been of late one of the most prominent in modern testing methods, we take the liberty of stating our request to employ your influence with men of science in your country whom you consider suitable to invite in the name of the

Council to attend our Congress for the purpose of enriching our programme of proceedings by reports and communications of various kinds on their latest investigations. Above all we have the agreeable duty of requesting you to have the kindness of making a communication of some sort taken from your large knowledge and extensive experience.

As has been our custom hitherto, we have the intention of getting all the reports for the Buda-Pesth Congress printed in at least two languages. It is absolutely necessary to have the manuscripts in our possession not later than the 1st of June, 1901, so that they can be translated and printed in time.

We request you to inform us of the result of your efforts as soon as possible.

Thanking you before hand for your trouble and with the assurance of our most distinguished consideration, we remain

Yours most respectfully,

INTERNATIONAL ASSOCIATION FOR TESTING MATERIALS.

By Order of the Council, *The President, TETMAJER.*

THIRD ANNUAL MEETING OF THE AMERICAN SECTION.

The Third Annual Meeting of the American Section of the International Association for Testing Materials, was held at the house of the American Society of Mechanical Engineers, No 12 West Thirty-first Street, New York City, on October 25, 26 and 27, 1900. During these days six sessions were held. The following members and guests were in attendance, at the first or subsequent sessions:

American Foundrymen's Association, represented by R. G. G. Moldenke.
American Society of Mechanical Engineers, represented by F. R. Hutton,
Secretary.

Bethlehem Steel Company, represented by Albert Ladd Colby, Metallurgical Engineer.

W. H. Broadhurst, Chemist, Department of Highways, Brooklyn, N. Y.

R. S. Buck, Engineer Department of Bridges, New York City.

Cambria Steel Company, represented by George E. Thackray, Structural Engineer.

Carnegie Steel Company, represented by John McLeod, Assistant to President.

T. L. Condron, Pittsburg Testing Laboratory, Chicago, Ill.
Charles B. Dudley, Chemist Pennsylvania R. R.
Engineering News, represented by G. H. Hill.
Engineering Record, represented by J. M. Goodell.
Gus. C. Henning, Consulting Engineer, New York City.
Henry M. Howe, Columbia University, New York City.
Richard L. Humphrey, Civil Engineer, Philadelphia, Pa.
Illinois Steel Company, represented by P. E. Carhart, Inspecting Engineer,
and C. E. Stafford, Manager O. H. and Plate Mill.
Robert Job, Chemist P. & R., Reading, Pa.
Paul Kreuzpointner, Testing Department, Pennsylvania R. R.
Lukens Iron and Steel Company, represented by C. L. Huston, Vice-
President.
Mansfield Merriman, Lehigh University, South Bethlehem, Pa.
Charles M. Mills, Assistant Engineer Bureau of Surveys, Philadelphia,
Pa.
R. G. G. Moldenke, Consulting Engineer, New York, N. Y.
Pennsylvania Steel Company, represented by H. H. Campbell, General
Superintendent.
J. M. Porter, Lafayette College, Easton, Pa.
The Iron Age, represented by Charles Kirchhoff.
Technischer Verein of Philadelphia, represented by J. C. Paulis.
Samuel Tobias Wagner, First-Assistant Engineer Bureau of Surveys,
Philadelphia, Pa.
George S. Webster, Chief Engineer Bureau of Surveys, Philadelphia,
Pa.
William R. Webster, Civil Engineer, Philadelphia, Pa.
Max H. Wickhorst, Engineer of Tests, C. B. & Q. R. R., Aurora, Ill.
H. V. Wille, Baldwin Locomotive Works, Philadelphia, Pa.

FIRST SESSION.

The opening session was called to order at 3.10 P.M on Thursday, October 25th, by the Chairman, Prof. Mansfield Merriman.

The minutes of the Second Annual Meeting, as printed in Bulletin No. 6, were approved. After the credentials of the delegates representing the various Societies and Corporations had been presented and accepted, the Chairman made the following address :

ADDRESS OF THE CHAIRMAN.

At the Second Annual Meeting, held last year in Pittsburg, I gave an address on the history and work of the International Association for Testing Materials and of its American Section. To-day I shall merely state a few facts regarding the progress of our work during the past year, and briefly indicate a method by

which, in my opinion, the effectiveness of our organization may be promoted and its important technical work be carried on more successfully than before.

The Council of the Association, at a meeting held in September of last year, formally abandoned the plan of holding its Congress at Paris in 1900, and recommended that all members support the Congress on the Testing of Materials which had been called by the authorities of the Paris Exposition. That Congress was held in July with successful results ; of the forty papers announced to be read it is gratifying to note that six were by members of this American Section, a greater number than from any other country with the exception of France. While this Congress took no action on the subject of unification of tests, it is believed that its discussions have materially assisted in this direction.

The Council of the International Association has held but two meetings during the past year. At the session in September, 1899, besides the question of the Paris Congress, the only business of importance was the consideration of proposed changes in the statutes ; one of these provides that the members of Council are to be chosen by the members of the Association in their respective countries. Regarding the session in April, 1900, I have no information except that contained in two letters from President Tetmajer ; one of these relates to the representation of the American Section on the International Council and is published in Bulletin No. 19 ; the other relates to the increase of membership in the American Branch of Committee No. 1, and will be read under the fifth order of business this afternoon.

It may here be plainly stated that the policy of the International Association in regard to publications is not satisfactory to many American members. The proceedings of the Council meetings are not published, no financial statements are given out, and practically nothing is known of the work of the technical committees. This is the more remarkable because the Journal "Baumaterialienkunde" has been designated as the official organ of the Association and receives compensation therefor. Yet in the twenty-four numbers of that journal from July 1, 1899 to July 1, 1900, there are only eight pages of the total four hundred and twelve pages which contain official matter of the Association.

Besides the eight pages in "Baumaterialienkunde" there have been issued by the Association during the past year two circulars relating to the Paris Congress, and a pamphlet containing an International List of Members and Technical Committees. This list was closed on June 30th, but the copies of the same forwarded to this country did not reach us until January, by which time our membership had increased so that the number of copies was not sufficient to supply all the American members. In addition to the above I have to acknowledge the receipt on July 27, 1900,

of a typewritten copy of the minutes of the Council meeting held ten months previously, namely, on September 25 and 26, 1899.

Attention may also properly be called to the fact that no statements regarding the expenditures of the Association have ever been made, as far as I am able to learn. As the American Section has regularly transmitted to the International Council \$1.50 per year for each of its members, it would seem that such statements are due us. In my opinion, it becomes a question to be carefully considered as to whether this state of affairs ought to continue indefinitely. After the experience of over two years in conducting business with the International Authorities, I have been forced to the conclusion that a reorganization is necessary in order to enable it to effectively conduct its affairs and successfully carry on its scientific work.

The reform that I would advocate is one suggested by the experience of the American Section, which now issues bulletins, giving the reports of the committees, the proceedings of the meetings and regular quarterly statements of receipts and expenditures. Let the members of the Association in each country from a National Section, which shall conduct its own affairs, levy its own taxes, elect its own representative on the International Council, and publish its own proceedings. Let the members of technical committees in each country report to meetings of their National Section where their proposals may be discussed, so that they shall finally have a true national character. Let the various National Sections interchange their publications and each criticize the technical views of the others. At stated times let International Congresses be convened to discuss and unify the views of the National Sections, and it is plain that the work of such Congresses can be more quickly done and will have greater authority than under the present system, where each national branch of a committee has little or no knowledge of the views of members in other countries. The expenses of these Congresses assessed upon the different Sections in proportion to the number of members, and this item seems to be the only international expense that is necessary or desirable.

Regarding the work of this American Section I need say but little, as the reports of our officers will give detailed information. The report of the Secretary will show that the increase in our membership has been steady and gratifying. The report of the Treasurer will show that subscriptions aggregating to \$705 have been made to the Publication and Research Fund, which was inaugurated at our last meeting. The statement of the Publication Committee will show that seventeen Bulletins, containing our proceedings and the reports of two of our technical committees, have been issued. Eleven of these are devoted to the Specifications recommended by the American Branch of Committee No. 1,

and at its request were issued in editions of large size. The inset sheets of these Bulletins have proved a heavy expense in spite of the fact that a large share of the cost was kindly borne by the *Railroad Gazette*, and it is a matter of regret that no balance now remains in the Publication Fund. I doubt not, however, that at this meeting, as at the one in Pittsburg, members will feel the imperative necessity of the publication of our proceedings and come forward with generous subscriptions to that fund.

A large part of the time of this meeting is to be devoted to the discussion of the Specifications recommended by the American Branch of Committee No. 1 for iron and steel under various conditions of use. The discussions already held before other societies indicate some diversity of opinion, which will here doubtless be materially harmonized, and it is to be hoped that the work of this meeting will be such as to lead to results advantageous alike to both producers and consumers.

In conclusion let me express the opinion that the work of our International Association, important in the past, is to be still more important in future years. Its scientific investigations are now but barely begun, and its technical problems are but slightly advanced toward solution. This American Section, which includes all the members of the Association resident in the United States, is ready and anxious to co-operate with the members in other countries and with the international officers in advancing these scientific and industrial labors. I sincerely trust that all the deliberations of this meeting may tend to promote harmonious co-operation, effective work, and results that shall be valuable to all the branches of the engineering profession.

At the close of the above address, the reports of the officers were presented. The Secretary read the following report:

REPORT OF THE SECRETARY.

Two years have now elapsed since the formation of the American Section of the International Association for Testing Materials. Since this time there has been a gradual growth in the membership and a corresponding increase in the strength of the organization.

The total membership at the First Annual Meeting was but 70. At the last Annual Meeting there were 128 members, with only one withdrawal.

The total membership at this, our Third Annual Meeting, is 160; we have lost but six members since our organization.

The total receipts and expenditures from August 15, 1899, to October 25, 1900, have been as follows:

Receipts :

Dues, 1899.....	\$ 26.00
Dues, 1900.....	360.00
Dues, 1901.....	2.50
Dues paid in excess.....	1.00
	———— \$389.50

Expenditures :

Secretary's office	\$ 13.60
Postage, telegrams, expressage	9.75
By cash, P. Kreuzpointner, Treasurer, Dec. 30, 1899...	19.50
By cash, P. Kreuzpointner, Treasurer, Jan. 17, 1900...	5.00
By cash, P. Kreuzpointner, Treasurer, Mar. 31, 1900...	255.85
By cash, P. Kreuzpointner, Treasurer, July 2, 1900...	51.50
By cash, P. Kreuzpointner, Treasurer, Oct. 25, 1900...	34.30
	———— \$389.50

Six members are in arrears for dues for 1899 and 1900, and eleven are in arrears for 1900.

The Executive Committee has held four meetings. At the meeting held October 21, 1899, rules were adopted for its government; in accordance therewith the committee holds regular quarterly meetings.

The editing of the official bulletin of this Section, beginning with Number 4, has been in the hands of the Publication Committee.

The report of the Second Annual meeting, the report of the Committee on Impact tests, and the minutes of the Executive Committee meetings appeared in Bulletins 4, 5, 6 and 7.

The report of Committee No. 1 appears in Bulletins 8-18, inclusive, while the program for the Third Annual Meeting and other matters relating to the American Section, appears in Bulletins 19 and 20.

[Signed]

RICHARD L. HUMPHREY,
Secretary American Section.

On motion this report was accepted and placed on file.

REPORT OF THE TREASURER.

This report includes the receipts and disbursements of the Publication and Research Fund, and the receipts and disbursements under the General Fund.

PUBLICATION AND RESEARCH FUND.

Receipts.

Contributions as follows:	
Aug. 18,	Robert A. Carter
	\$100.00
Aug. 28,	Logan Iron & Steel Co
	20.00
Sept. 6,	Carbon Steel Co
	50.00
Sept. 8,	Standard Steel Co
	25.00
Sept. 27,	J. M. Porter
	100.00
Oct. 14,	Wayne Iron & Steel Co
	50.00
Oct. 26,	Central Iron & Steel Co
	50.00
Nov. 29,	Robert W. Lesley
	20.00
Nov. 29,	Bethlehem Steel Co
	100.00
Dec. 1,	Altoona Iron Co
	100.00
Dec. 4,	Milton Iron Co
	10.00
Dec. 9,	Shoenberger Steel Co
	30.00
1900.	
Feb. 26,	Illinois Steel Co
	50.00
	<u>\$705.00</u>

Disbursements.

1899.	
Dec. 1.	Printing Bulletins Nos. 4-6.....
	\$ 85.50
Dec. 30.	Treasurer's office.....
	4.15
1900.	
Jan. 9.	Account of Committee No. 1.....
	39.26
Feb. 16.	Printing Bulletin No. 7.....
	12.40
Aug. 15.	Account of Committee on Impact Tests.....
	25.00
Aug. 25.	Tables for Bulletins Nos. 8-17.....
	250.96
Oct. 22.	Printing Bulletins Nos. 8-20.....
	354.63
	Total disbursements.....
	<u>\$771.90</u>
	Deficit
	<u>\$66.90</u>

(This deficit was covered by transfer of \$66.90 from the General Fund.)

GENERAL FUND.

Receipts.

1899.	
Oct. 16.	Secretary's balance.....
	\$ 29.65
1900.	
Jan. 3.	Dues
	\$ 27.50
Jan. 6.	3/5 pro rate
	1.80
Mar. 31.	Dues
	274.50
Apr. 10.	Refunded by International Association
	10.41
Apr. 10.	3/5 pro rate
	8.19
June 30.	Dues
	52.50
July 1.	3/5 pro rate.....
	1.68
Oct. 25.	Dues
	40.00
	<u>\$446.23</u>

Disbursements.

1900.

Jan. 7.	Secretary's office	\$ 3.00
Jan. 7.	Dues paid to G. C. Henning.....	19.50
Jan. 15.	Printing	6.50
Feb. 16.	Printing.....	7.75
Mar. 1.	Excess dues to H. B. Seaman	1.00
Mar. 31.	Secretary's office.....	18.65
Apr. 10.	Dues paid to International Association.....	163.50
June 30.	Secretary's office.....	1.00
June 30.	Treasurer's office.....	1.80
July 9.	Dues paid to International Association.....	31.50
Sept. 4.	Account of Committee No. 1.....	26.32
Oct. 22.	Account of Publication Committee.....	70.34
Oct. 22.	Transfer to cover deficit in Publication and Research Fund.....	66.90
Oct. 25.	Treasurer's office.....	1.25
Oct. 25.	Secretary's office.....	5.70
		<u>\$424.71</u>
	Balance receipts over disbursements....	<u>\$21.52</u>

[Signed]

P. KREUPOINTNER,
Treasurer.

The Chairman called attention to the fact that at the last Annual Meeting an Auditing Committee had been appointed to audit the accounts of the Secretary and Treasurer. He suggested that such a Committee be appointed at this meeting, and on motion, the Chairman appointed Messrs. McLeod and Condron to act as an Auditing Committee.

The Publication Committee made the following report :

REPORT OF THE PUBLICATION COMMITTEE.

Since its appointment on August 16, 1899, this Committee has issued 17 Bulletins, aggregating 184 pages, with eleven inset sheets and nine cuts. For Bulletins Nos. 4, 5, 6, 7, 19, and 20 there were printed 1000 copies of each, while for Bulletins Nos. 8-18 there were printed 3000 copies.

There have also been printed 500 membership blanks, six pages of 140 copies each for insertion in the International List of Members, 200 ballot slips with envelopes therefor, and 3000 envelopes for mailing Bulletins.

The cost of these publications has been as follows :

Bulletins Nos. 4, 5, 6, 7.....	\$ 91.90
Bulletins Nos. 8-18	279.33

Inset sheets for Bulletins Nos. 8-17.....	250.96
Expressage on inset sheets.....	8.55
Bulletin No. 19, with ballot slips and envelopes.....	43.50
Bulletin No. 20.....	17.25
Membership blanks.....	6.50
International List of Members.....	7.75
Envelopes for mailing Bulletins	9.00
Expenses of Distribution :	
Expressage.....	\$27.45
Postage	40.58
Boxes, paper and twine.....	2.31
	— 70.34
Total	\$785.08

The distribution of this printed matter is shown by the following statements :

Membership Blanks.

Number of copies printed.....	500
To the Secretary.....	200
To members.....	112
To engineers not members.....	28
	— 340
Copies on hand, October 1, 1900.....	160

International List of Members.

Number of copies received from American Member of Council.....	140
To members.....	138
To copies damaged in printer's hands in making changes and additions	2
	— 140

Ballots and Addressed Envelopes.

Number of copies printed.....	200
To members.....	166
	—

Copies on hand, October 1, 1900.....	34
	—

Mailing Envelopes.

Number of envelopes printed.....	3000
To envelopes used for mailing, etc.....	1970
	—

Envelopes on hand, October 1, 1900.....	1030
	—

Bulletins.

No. 4. An address by the Chairman of the American Section on "The Work of the International Association for Testing Materials." Issued September, 1899. Number of pages	10
No. 5. "Preliminary Report on the Present State of Knowledge Concerning Impact Tests." By Professors W. Kendrick Hatt and Edgar Marburg. Issued October, 1899. Number of pages.....	26

No. 6. Reports and transactions of the Second Annual Meeting of the American Section. Issued November, 1899. Number of pages	20
No. 7. Reports presented at meeting of the Executive Committee. Issued January, 1900. Number of pages.....	8
No. 8. "Proposed Standard Specifications for Structural Steel for Bridges and Ships." With two inset sheets. Issued May, 1900. Number of pages.....	6
No. 9. "Proposed Standard Specifications for Structural Steel for Buildings." With one inset sheet. Issued May, 1900. Number of pages.....	6
No. 10. "Proposed Standard Specifications for Open-Hearth Boiler Plate and Rivet Steel." With one inset sheet. Issued May, 1900. Number of pages.....	8
No. 11. "Proposed Standard Specifications for Steel Rails." With one inset sheet, Issued May, 1900. Number of pages.....	6
No. 12. "Proposed Standard Specifications for Steel Splice Bars." With one inset sheet. Issued May, 1900. Number of pages....	4
No. 13. "Proposed Standard Specifications for Steel Axles." With two inset sheets. Issued May, 1900. Number of pages.....	4
No. 14. "Proposed Standard Specifications for Steel Tires." With one inset sheet. Issued May, 1900. Number of pages.....	4
No. 15. "Proposed Standard Specifications for Steel Forgings." With one inset sheet. Issued May, 1900. Number of pages....	6
No. 16. "Proposed Standard Specifications for Steel Castings." With one inset sheet. Issued May, 1900. Number of pages....	4
No. 17. "Proposed Standard Specifications for Wrought Iron." With one inset sheet. Issued May, 1900. Number of pages....	6
No. 18. Report of Committee No. 1; also list of members of American Branch of Committee No. 1. Issued May, 1900. Number of pages.....	10
No. 19. Program of Third Annual Meeting of American Section, reports of Executive Committee; also correspondence relating to representation of American Section on the International Council. Issued September, 1900. Number of pages.....	28
No. 20. Report of Committee No. 1, giving suggestions relative to discussion of specifications. Issued October, 1900. Number of pages.....	12
Total number of pages, including Bulletins Nos. 1, 2 and 3.....	184

Copies of Bulletins Nos. 8-18 were furnished to the following Societies for discussion: American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Mining Engineers, Master Car Builders Association, American Railway Master Mechanics Association, and American Association for the Advancement of Science.

At this date there are on hand 150 copies of Bulletin No. 4, 228 copies of No. 5, 348 copies of No. 6, 748 copies of No. 7, 900 copies of Nos. 8 and 9, 1,000 copies of No. 10, 1,400 copies of Nos. 11, 12, 13 and 14, 1,000 copies of Nos. 15 and 16, 900 copies of No. 17, 850 copies of No. 18, 729 copies of No. 19, and 710 copies of No. 20.

[Signed]

J. M. PORTER,

Secretary of Publication Committee.

On motion of Mr. McLeod, a vote of thanks was given to Prof. J. M. Porter for his labors in connection with the publication of the Bulletins of the American Section.

REPORT OF THE EXECUTIVE COMMITTEE ON THE MEMBERSHIP OF COMMITTEE NO. 1.

The Executive Committee presented the following report on the membership of the American Branch of Committee No. 1:

In 1898, pursuant to a request of the International Council that five American members be appointed on Committee No. 1, the following were designated by the Executive Committee of the American Section: The Franklin Institute; W. R. Webster; H. H. Campbell; James Christie; and Carnegie Steel Company, represented by John McLeod. These appointments were later approved by the Chairman of the International Committee No. 1, and by the International Council.

At a meeting of the Executive Committee held on February 22, 1899, Mr. Henning stated that the International Council had authorized each national branch of an International Committee to increase its membership, whereupon it was resolved that such increase might be permitted subject to the approval of the Executive Committee.

Under this authorization the American branch of Committee No. 1 submitted from time to time the names of additional members to the Executive Committee, who approved the same subject to the action of the International Council. The names of these additional members are given in Bulletin No. 18.

On April 9, 1900, the Secretary forwarded these names to the International Council, which duly considered the subject at its meeting on April 23, 1900, and the following letter giving its decision was received by the Chairman on July 27, 1900.

JULY 9, 1900.

Prof. Mansfield Merriman, Chairman of the American Section of the International Association for Testing Materials, Lehigh University, South Bethlehem, Pa.

SIR: At the last meeting of the Council of the International Association on the 23d and 24th of April, 1900, a letter written by the Secretary of the American Section I. A. T. M., Mr. Richard L. Humphrey and dated April 9, 1900, was laid before the Council. This letter informs the Council of the International Association that the Executive Committee of the American Section had decided to increase the number of American members on Committee No. 1 from 5 to 26 and gives a list of the 26 chosen, asking at the same time, if the Council agreed to the resolution mentioned above.

The Council thanks the American Section for this proposal, but, though they acknowledge the interest and zeal shown by the members of the American Section in the solution of one of the most important problems of the International Association, they do not consider it advisable to agree to the resolution of the American Section.

The following considerations have decided the Council:

The too numerous representation of one country will, with regard to the rest, disturb the balance and in voting matters the due proportion of the committee and will give other countries the right of demanding the same number of representatives—as indeed they have already done in case the recommendations of the American Section be adopted. But if a proportionate representation should be granted to other countries—and justice would oblige us to accept also this increase—the members of this Committee would increase to such a degree that the work and the mutual correspondence were rendered exceedingly difficult. On the other hand the Council is only too happy, if, by the assistance of a considerable part of the members, the wishes of scientific men in one country are expressed in the most decided, comprehensive and complete way possible.

On this subject a member of Council expressed his opinion that the members concerned in the technical problems of the Association might form International Sub-committees according to neces-

sity or desire, the representatives of which would be the members of the General Committee as they are at present acknowledged.

This resolution was, therefore, unanimously adopted in the following words :

The President of the Association is commissioned to write, by order of the Council to the Chairman of the American Section stating the Council formed the resolution of having the same number of American members on Committee No. 1 as decided on at the beginning, but to leave it to the American Section to form a Sub-committee for the problem to be treated, the wishes and proposals of this Sub-committee to be submitted by the five representatives already on the Committee to the General Committee in due form."

Hoping this resolution will meet the approval of the American Section of the International Association, we remain,

Very faithfully yours,
International Association for Testing Materials.

[Signed]

The President, TETMAJER.

Mr. Webster moved that the report of the Executive Committee be accepted and placed on file, and that this section expresses its approval in the letter of President Tetmajer, that the American Branch of Committee No. 1 have but five votes, but that in casting these five votes, that all the members of Committee No. 1 should have equal voice; Professor Hutton moved that this be amended by inserting the word "concurrence" instead of "approval."

Mr. Stafford wanted to know how the work done by the Section was going to be made useful; the Chairman stated that it is impossible to state just how the work would be conducted in the future; that would depend largely on the action of the International Association. Mr. Stafford also wanted to know why Committee No. 1 was made so large. Mr. Webster explained that inasmuch as the work of Committee No. 1 covered such an extensive field, the work could not be performed better than by dividing it up among a number of small representative committees. In order to do this it was necessary, therefore, to have a large Committee, so as to include men who were experts on the various subjects.

After considerable discussion Mr. Webster withdrew his previous motion and substituted the following : " that the report of the Executive Committee be accepted and placed on file, and that the American Section expresses its concurrence in the request contained in President Tetmajer's letter, that the American Branch of Committee No. 1 have but five votes, but that all members of the American Branch of Committee No. 1 should have equal voice in casting these five votes, and in all deliberations of the American Branch." This motion was carefully discussed. Mr. Webster withdrew his motion in favor of a motion offered to the effect that the report of the Executive Committee be accepted and placed on file, and that the report be referred to a special committee composed of Mr. Webster and Professor Hutton, to report later. This motion was carried unanimously.

REPORT OF THE EXECUTIVE COMMITTEE ON REPRESENTATION ON THE INTERNATIONAL COUNCIL.

The Executive Committee also presented the following report upon the Representation of the American Section on the International Council :

The correspondence printed in Bulletin No. 19 gives the full history of this question. It appears that the American Section has been asked three times during the present year to express its opinion on this subject. The action of the Executive Committee on April 7, 1900, in provisionally appointing Professor Henry M. Howe as American Member of Council, was taken in accordance with the requests of President Tetmajer, in his letters of February 19th and March 14th (See pages 155 and 158 of Bulletin No. 19). The action of the Executive Committee in ordering a ballot at this time for American Member of Council was taken at the request of President Tetmajer in his letter of July 23rd (see page 167 of Bulletin No. 19).

Since Bulletin No. 19 was printed a letter has been received from Secretary Zschokke, which contains another request that such a ballot be taken, as the following extract shows :

"Prof. Tetmajer, in his letter of July 23rd, has made you a proposal of meditation, according to which all American members shall elect the American Representative in the Council of the International Association. If adopted, this proposal has undoubt-

edly the advantage of clearly expressing the views of the majority of the American members. Nothing can be more agreeable to the Council of the International Association than to be in harmony with the views of the majority of the American members. * * * We are anxious to hear how his proposal of meditation will be received by you and the American Executive Committee. Prof. Tetmajer, who has taken a vacation to-day for some time, has the intention of calling together a session of the Council of the International Association in October or November; then this affair will come under discussion. Therefore it would be agreeable to me if you would inform us before October how this proposal is received by the American Executive Committee, or what wishes that Committee has to send to the Council."

In reply to this letter the Chairman informed Secretary Zschokke that a ballot for Member of Council had been ordered by the Executive Committee, that the same would be counted on October 25th, and the result be promptly forwarded to the International Council. A copy of the ballot slip and of Bulletin No. 19 was also mailed to him and to each Member of the Council.

It appears from the above that the Council of the Association, through its President and Secretary, has requested the American members to vote for their Representative on the International Council, and has intimated that the choice shall be confirmed at its next meeting.

The above report was accepted and placed on file.

AMENDMENTS TO BY-LAWS.

The following amendments to the By-Laws were presented by Messrs. Merriman, Humphrey and Kreuzpointner :

OCTOBER 25, 1900.

The undersigned propose the following amendment to the By-Laws :

Strike out Article 4, and substitute the following :

Article 4. The officers of the American Section shall be a Chairman, a Vice-Chairman, a Secretary, and a Treasurer, who shall hold office for two years.

The Executive Committee shall consist of these officers, together with two members; one being elected at each Annual Meeting, and each of them serving for two years.

The Chairman shall be ex-officio, the nominee for American Member of Council of the International Association.

Respectfully proposed by

MANSFIELD MERRIMAN,

RICHARD L. HUMPHREY,

PAUL KREUZPOINTNER.

The Chairman suggested that the discussion of these amendments be deferred until later. Mr. A. L. Colby moved that the proposed amendments be discussed and voted on to-morrow afternoon, under Section 19 of the program ; this motion was carried unanimously.

APPOINTMENT OF TELLERS.

The Chairman appointed Messrs. Colby and Condron as Tellers to count the Letter Ballots for Officers, and gave them the following instructions:

1. Members in arrears are not entitled to vote.
2. A Ballot not autographically signed by the voter will not be counted.

Recess was taken at 4.30 to assemble at the call of the Chair.

ELECTION OF OFFICERS.

The meeting was called to order at 5.25, and the Tellers then presented the following report :

NEW YORK, October 25, 1900.

To the Chairman of the American Section, International Association for Testing Materials :

DEAR SIR : We, the undersigned Tellers, report the following count of ballots cast for officers :

Total number of members enrolled.....	160
Number of members in arrears in dues, and therefore not entitled to vote.....	18
Total number entitled to vote.....	142
Number of votes received unsigned or signed with rubber stamps, and therefore thrown out.....	4
Number of votes received from members in arrears, and therefore thrown out.....	3
Total number of legal votes received.....	90
For Chairman, Henry M. Howe.....	89
For Chairman, William R. Webster.....	1

For Vice-Chairman, Charles B. Dudley.....	90
For Secretary, J. M. Porter.....	90
For Treasurer, Robert W. Lesley	90
For American Member of Council	90

[Signed] ALBERT LADD COLBY,
T. L. CONDRON,
Tellers.

The Chairman then declared the following officers elected :

Chairman.....	Henry M. Howe
Vice-Chairman	Charles B. Dudley
Secretary	J. M. Porter
Treasurer.....	Robert W. Lesley
American Member of Council..	Henry M. Howe

Upon invitation of the retiring Chairman the new Officers entered upon their duties, and Prof. Howe assumed the Chair. After a few remarks by the Chairman, thanking the members for the honor which they had conferred upon him, the first session adjourned at 5.50 P.M.

INFORMAL DINNER.

The Annual Informal Dinner was held at the "Arena," West 31st Street, at 6.30 P.M., at which 25 members and guests were present.

SECOND SESSION.

The second session was called to order at 8.35 P.M., twenty-five members being present.

REPORT OF AMERICAN BRANCH COMMITTEE NO. 1.

The report of Committee No. 1, as published in Bulletin No. 20, was presented by its Chairman, W. R. Webster.

The general discussion of the specifications for Structural Steel, and Open Hearth Boiler Plate and Rivet Steel proposed by Committee No. 1 in Bulletins Nos. 8, 9, and 10 for adoption by the American Section as standards, occupied the balance of this session, which adjourned at 11.10 P.M.

THIRD SESSION.

The third session was called to order Friday, October 26, at 10.15 A.M., fifteen members being present.

A detailed discussion of the Specifications for Steel Rails, Bulletin No. 11, and the Specification for Steel Splice Bars, Bulletin No. 12, occupied the most of this session.

Certain changes were suggested and these Specifications were referred back to Committee No. 1.

REPORTS OF COMMITTEES.

Reports from the following Committees were presented:

Committee No. 2.—To establish methods of inspection and testing for determining the uniformity of individual shipments of iron and steel. Mr. W. R. Webster reported progress.

Committee No. 3.—On the properties of soft steel at abnormally low temperatures. No report.

Committee No. 4.—Methods of testing welds and weldability. Mr. Wille reported progress.

Committee No. 5.—Collection of data for establishing standard rules for piece tests, with special reference to axles, tires, springs, pipes, etc. Mr. Wille reported progress.

Committee No. 6.—On the most practical method for polishing and etching for the microscopic study of iron and steel. No report.

COMMITTEE NO. 1.

The special Committee composed of Mr. Webster and Prof. Hutton to whom was referred the Report of the Executive Committee, relative to increasing membership of Committee No. 1, reported as follows:

Resolved, That the Report of the Executive Committee be accepted and placed on file;

Resolved, That the American Section records its hearty concurrence in the action of the International Council as expressed in the letter of President Tetmajer, which has limited the American membership of Committee No. 1 to five persons.

Resolved, That in the deliberative work and recommendations of Committee No. 1 of the American Section the 34 members already taking part have equal votes, the majority action of this number constituting the official action of the Committee.

On motion, the above report was accepted.

AMERICAN MEMBER OF COUNCIL.

The Secretary read a letter to the International Council signed by the retiring Chairman and Secretary, certifying to the choice of Prof. Howe by the American Section as American Member of Council. This letter contained a copy of the report of the tellers.

On motion, the meeting adjourned at 12.40 P.M.

FOURTH SESSION.

The fourth session was called to order October 26th, at 3.15 P.M., Vice Chairman C. B. Dudley occupying the chair; twenty-four members were present.

A detailed discussion of the Specification for Structural Steel, for Bridges and Ships, Bulletin No. 8, and the Specification for Structural Steel for Building, Bulletin No. 9, occupied most of this session.

Certain changes were suggested and these Specifications referred back to Committee No. 1.

REPORTS OF COMMITTEES.

The Chair called for reports from Committees Nos. 7, 8, 9, 10, 11, 12, 13, 14 and 15. Prof. Merriman reported progress for Committee No. 7, Mr. Humphrey for Committee No. 8, and Prof. Porter for Committee No. 9.

APPROVAL OF BY-LAWS.

The By-Laws proposed at the first session were then taken up and discussed, and unanimously adopted. The Secretary was instructed to forward a copy of the amended By-Laws to the International Council.

On motion the meeting adjourned at 5.45 P.M.

FIFTH SESSION.

The fifth session was called to order October 26th at 8.45 P.M., twenty members being present. Dr. Dudley occupied the chair.

The discussion of the Proposed Standard Specifications was continued, and included the Specifications for Open-Hearth Boiler Plate and Rivet Steel, Bulletin No. 10; Steel Tires, Bulletin No. 14; Steel Castings, Bulletin No. 16, and Wrought Iron, Bulletin No. 17.

Certain changes were suggested, and these Specifications referred back to Committee No. 1.

Under miscellaneous business the Chair called for reports from Committees Nos. 16, 17, 18, 19, 20 and 21, all of which failed to report.

On motion of Mr. A. L. Colby, duly seconded, Prof. Merriman was nominated as a member of the Executive Committee of the American Section. On motion of Mr. Campbell, duly seconded, Mr. A. L. Colby was nominated for member of the Executive Committee. On further motion the nominations were closed, and the Secretary instructed to cast the ballot. The Chair announced that Messrs. Merriman and Colby were elected members of the Executive Committee of the American Section.

On motion, the meeting adjourned at 11 P.M.

SIXTH SESSION.

The sixth and final session was called to order on Saturday, October 27th, at 10.15 A.M., fifteen members being present. Prof. Henry M. Howe, Chairman, presiding.

On motion, Prof. Merriman's term as member of the Executive Committee was fixed at two years, and Mr. Colby's term at one year. The Secretary read the following report from the American Committee A on Impact Tests :

REPORT OF THE COMMITTEE ON IMPACT TESTS.

LAFAYETTE, IND., October 23, 1900.

To the Members of the American Section of the International Association for Testing Materials :

The Committee appointed to report on the present state of knowledge concerning Impact Tests, begs to report the completion of the bibliography of the literature in the English, French, and German languages, relating to such tests. Having completed the work mapped out, the Committee requests its discharge.

Respectfully submitted,

[Signed]

W. K. HATT,
EDGAR MARBURG.

On motion, the above report was accepted and this Committee was discharged.

Committee B failed to report and was, on motion, discharged.

Committee C reported progress through Prof. Howe, and was continued.

Committee D reported through Mr. Webster, who stated that Committee No. 1 had covered or intended to cover this subject, and therefore requested that Committee D be discharged. On motion, Committee D was discharged.

Committee E reported as follows :

PROGRESS REPORT OF THE AMERICAN COMMITTEE E ON
THE INVESTIGATION OF THE MAGNETIC PROPER-
TIES OF IRON AND STEEL.

OCTOBER 10, 1900.

To the American Section of the International Association for Testing Materials :

Your Committee reports that, since the time of its appointment at the last annual meeting of the association, good progress has been made, and that arrangements are practically complete for carrying out systematically the research program here outlined. Active experimentation is already in progress, and although your Committee can not, at this time, make more than a Progress Report, its affairs are, nevertheless, in a promising condition.

To the end of ultimately being sufficiently advised in the premises to admit of your Committee feeling warranted in submitting for your consideration a list of standard specifications for iron and steel used in the construction of electrical machinery, it is thought best to prosecute the following series of investigations, to be reported upon as rapidly as possible.

1. To determine the most accurate method of making permeability and hysteretic tests of magnetic materials.

This work is being vigorously prosecuted by Messrs. J. W. Esterline and E. B. Smith, who have given the subject much attention, and consented to have your Committee avail itself of their researches.

2. To determine the per cent. of loss in permeability due to scale on iron and steel castings.

Through the medium of this set of tests, it is desired to ascertain how the permeability of the metal varies with the depth of

penetration towards the center of the casting. The tests of pieces for this work are already provided.

3. To determine the per cent. of change in the permeability of iron and steel castings, that is brought about by chilling. For this work castings have been made from the same ladle, part being allowed to cool in the sand, and part being open and exposed to the air as soon as hard enough.

4. To determine the effect of position-in-the-mold on the permeability of cast iron and cast steel.

This investigation is for the purpose of ascertaining the law of variation, if there is any, in the permeability of samples taken from the bottom and the top, respectively, of castings. Test pieces for this investigation are being worked up.

5. To determine the per cent. of difference in the permeability and hysteretic constants of two samples cut from the same section of a piece of rolled metal, one sample being turned up with the grain, and the other turned up across the grain.

This investigation is in progress, and will be extended to the end of determining the general law of variation.

6. To determine the effects of heat treatment upon the magnetic properties of iron and steel.

In the conduct of this work, a careful record will be kept of the heat treatment of the test metal during each stage of its manufacture, and an, as nearly as possible, complete micro-photographic record will be made of the changes in the structure of the metal throughout the heat treatment. Two laboratories equipped for the carrying out of this work will co-operate with the Committee in this investigation.

7. To determine the effect of different percentages of impurities on the permeability and hysteretic constants of irons and steels which have been subjected to the same heat treatment.

This research will be developed along lines involving the keeping of a complete record of the chemical and magnetic properties of the samples, as well as a record of their changing micro-structure. The resources of three laboratories, at least, can be depended upon to render assistance in this investigation.

Your Committee will be very grateful for any assistance that any one can render in carrying out the work outlined. There is so much to be accomplished that room abounds for the efforts of

a large number of experimenters. Only by a broad review of the field in a broad way can the desired ends be attained. From intercommunication between interested parties, much good can certainly be expected, and your Committee seeks co-operation. The reports of tests made by others will be most gratefully received and reviewed.

Mr. J. A. Capp, the third member of your Committee "E," expresses his wish to study the subject further before accepting the above scheme of study. The lines of investigation may therefore be modified considerably during the progress of the actual operation, and we can only again request the co-operation of all the most interested.

[Signed]

W. E. GOLDSBOROUGH,
RICHARD G. G. MOLDENKE.

On motion the above report was accepted and ordered placed on file, and the Committee continued.

SPECIFICATIONS.

The discussion of the Proposed Standard Specifications was concluded by taking up the Specification for Steel Axles, Bulletin No. 13, and the Specification for Steel Forgings, Bulletin No. 15. The discussion of these two specifications included remarks as to the relative merits of turned test bars of 2" and 8" gauged length. On motion, this subject and the above two Specifications were referred back to Committee No. 1.

On motion of Mr. Stafford, Committee No. 1 was instructed to present its final report at the next annual meeting of the American Section, which meeting shall take place before the next Congress of the International Association for Testing Materials.

Mr. Webster stated that it was desirable to have the Engineering Societies continue their discussion of the Proposed Standard Specifications, and on motion of Mr. Condron, this matter was referred to the Executive Committee, with power to act.

VOTES OF THANKS.

The Auditing Committee called attention to the fact that *The Railroad Gazette* had printed the valuable inset sheets of tables for Bulletins Nos. 8-17 at a cost of \$450.96 and had charged only \$250.96 for the same, thus virtually donating \$200.00 to the Pub-

lication and Research Fund. A motion was then unanimously passed thanking *The Railroad Gazette* for its generous donation.

On motion of Mr. Humphrey, a cordial vote of thanks was tendered to the officers and members of the American Society of Mechanical Engineers for the use of their House, and for other courtesies and privileges received.

AUDITORS' REPORT.

Mr. Condon reported for the Auditing Committee, and stated that a small apparent discrepancy had been discovered between the Secretary's and Treasurer's books. The Committee asked to be discharged from further services, as they were compelled to leave town. On motion, this was done, and the Chair authorized to appoint a new Committee. [Messrs. Webster and Marburg were appointed as the new Committee, and subsequently reported that the discrepancy had been adjusted, and that the reports of the Secretary and Treasurer as printed above, are correct.]

On motion, the third annual meeting adjourned at 11.45 A.M.

MEETING OF THE EXECUTIVE COMMITTEE.

October 27, 1900.

The members of the Executive Committee met at the House of the American Society of Mechanical Engineers, 12 West Thirty-first Street, New York City, immediately after the adjournment of the Third Annual Meeting of the American Section. The following members were present: Messrs. Howe, Merriman, Colby, Dudley and Porter, with Messrs. Humphrey and Kreuzpointner on invitation, Prof. Howe in the Chair and Prof. Porter, Secretary.

On motion of Dr. Dudley, Messrs. Merriman, Colby and Porter were appointed a Committee on Publication.

On motion of Prof. Merriman, the Chair appointed Dr. Dudley and Mr. Colby a committee to invite subscriptions to the Publication Fund.

On motion of Dr. Dudley, Prof. Howe and Mr. Webster were appointed a Committee to devise plans to present the Specifications as contained in the report of Committee No. 1 to the various Engineering Societies for discussion.

On motion of Prof. Merriman, the Secretary was instructed to

communicate to the International Council, the By-Laws of the American Section as amended at the late meeting.

On motion of Dr. Dudley, the Executive Committee endorsed and approved the bill before Congress, establishing a National Standardizing Bureau.

On motion of Messrs. Colby and Dudley, the Secretary was instructed to write to all members in arrears for dues relative to their accounts.

There being no further business, the meeting adjourned, subject to the call of the Chairman.

MEETING OF THE EXECUTIVE COMMITTEE.

January 5, 1901.

The Executive Committee of the American Section of the International Association for Testing Materials met at the residence of Prof. Henry M. Howe, 27 West 73d Street, New York City, January 5, 1901. The following members were present: Messrs. Howe, Colby, and Porter, Prof. Howe in the Chair, and Prof. Porter as Secretary.

The minutes of the last meeting, October 27, 1900, were read and approved.

A recent statement in the engineering papers regarding the appointment of Mr. G. C. Henning by the American Society of Mechanical Engineers to attend a meeting of the Council of the International Association at Zurich was discussed.

Mr. Colby reported progress for the Committee on Funds for Publication.

Prof. Howe reported on behalf of the Committee "to devise plans for presenting to the National Engineering Societies the Specifications recommended by Committee No. 1," and reported progress.

The Secretary laid before the Committee the resignation of Mr. Gus. C. Henning as member of the American Section, contained in his letter of December 19th, and on motion his resignation was accepted.

There being no further business, the meeting adjourned, subject to the call of the Chairman.

LIST OF MEMBERS.

The following changes in the American Section of the International Association have occurred since October 1, 1900.

ADDITIONS.

BRAINE, L. F., General Manager Continuous Rail Joint Company, Newark, N. J.

BURY, EDMUND, Foreman Tool and Physical Department, Ingersoll-Sergeant Drill Company, 685 Washington Street, Easton, Pa.

CLARK, H. H., Mechanical Engineer, Chicago, Burlington, and Quincy Railroad, 209 Adams Street, Chicago, Ill.

COFFIN, JOHN N., Consulting Mechanical Engineer, 312 Perry Payne Building, Cleveland, Ohio.

EMRIE, ALMON, Factory Supervisor, Superintendent Ingersoll-Sergeant Drill Company, Easton, Pa.

FAHRIG, ERNST, Chief of Laboratories, Philadelphia Commercial Museums, Philadelphia, Pa.

FREEMAN, S. E., Consulting Mechanical Engineer, 4052 Olive Street, St. Louis, Mo.

HAYDOCK, R. R., Engineer, 421 Chestnut Street, Philadelphia, Pa.

JOHNSON, WALLACE C., Consulting Engineer, Niagara Falls, N. Y.

LARKIN, JOHN P., Engineer, 430 Endicott Building, St. Paul, Minn.

LAWRENCE, WM. H., Massachusetts Institute of Technology, Boston, Mass.

LOWETH, CHAS. F., Engineer and Superintendent of Bridges and Buildings, C. M. & St. P. Ry., 1100 Old Colony Building, Chicago, Ill.

MITCHELL, WM. H., Engineer, 100 Broadway, New York, N. Y.

NELSON, E., Engineer, 1433 Marquette, Building, Chicago, Ill.

TRANSFERS OF MEMBERSHIP.

HAGAR, EDWARD M., Manager Cement Department, Illinois Steel Company, 1060 The Rookery, Chicago, Ill. (Transferred from Jasper Whiting).

ILLINOIS STEEL COMPANY, Rookery Building, Chicago, Ill.
(Transferred from P. E. Carhart.)

CHANGES OF ADDRESS.

AMERICAN FOUNDRYMEN'S ASSOCIATION, Dr. Richard G. G. Moldenke, Secretary, P. O. Box 432, New York, N. Y.
BRAMWELL, Jos. W., Mechanical Engineer, Philadelphia Machine Tool Company, Philadelphia, Pa.
COLBY, J. ALLEN, Witherspoon Building, Philadelphia, Pa.
DUGAN, CHARLES M., 2139 North Seventh Street, Philadelphia, Pa.
MOLDENKE, RICHARD G. G., Metallurgist, Consulting Engineer, P. O. Box 432, New York, N. Y.
RICE, FRANCIS S., S. V. Huber & Co., Rooms 702-707, Ferguson Block, Pittsburg, Pa.
RICHARDSON, CLIFFORD, New York Testing Laboratory, Long Island City, N. Y.
TECHNISCHER VEREIN, OF BROOKLYN, Bartholomew Viola, M. E., 11 Bartlett Street, Brooklyn, N. Y.

RESIGNATIONS.

GWILLIAM, GEORGE T.
KAYLOR, JOHN J.

HENNING, GUS. C.
SEAMAN, HENRY B.

DIED.

JARECKI, CHARLES, Erie, Pa.

OFFICERS OF THE AMERICAN SECTION.

1900-1902.

Chairman.—HENRY M. HOWE, Professor of Metallurgy in Columbia University, New York, N. Y.

Vice-Chairman.—CHARLES B. DUDLEY, Chemist of Pennsylvania Railroad, Altoona, Pa.

Secretary.—J. M. PORTER, Professor of Civil Engineering in Lafayette College, Easton, Pa.

Treasurer.—ROBERT W. LESLEY, President American Cement Company, 22 South 15th Street, Philadelphia, Pa.

Executive Committee.

HENRY M. HOWE. CHARLES B. DUDLEY. J. M. PORTER.

ROBERT W. LESLEY. MANSFIELD MERRIMAN.

ALBERT LADD COLBY.

Publication Committee.

ALBERT LADD COLBY. J. M. PORTER.

MANSFIELD MERRIMAN.

Financial Committee.

CHARLES B. DUDLEY.

ALBERT LADD COLBY.

American Member of the International Council.

HENRY M. HOWE.

